

# **EXHIBIT BU**

**Sonos's Claim Chart**  
**U.S. Patent No. 9,654,459**

<b>Claim: 1</b>	<b>Google Chromecast-Enabled Audio Players</b>
A playback device comprising:	Google's line of Chromecast-enabled audio players includes, <i>inter alia</i> , the Google Home Mini, the Google Home, the Google Home Max, the Google Home Hub, and the Chromecast dongles, and these Chromecast-enabled audio players are controlled by smartphones, tablets, and computers installed with the Google Home app, the Google Play Music app, and/or other Chromecast-enabled apps (where a computing device installed with at least one of these apps is referred to herein as a "Chromecast-enabled computing device"). Each of the foregoing Chromecast-enabled audio players comprises a "playback device" as recited in claim 1, and Google's Cloud Platform comprises a "remote server" as recited in claim 1. <i>See, e.g.,</i> <a href="https://developers.google.com/cast/docs/caf_receiver/">https://developers.google.com/cast/docs/caf_receiver/</a> ; <a href="https://developers.google.com/cast/docs/caf_receiver/queuing">https://developers.google.com/cast/docs/caf_receiver/queuing</a> ; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueBase">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueBase</a> .
a network interface;	Each of the foregoing Chromecast-enabled audio players includes a network interface configured to interface the Chromecast-enabled audio player with data network, such as a WiFi interface. <i>See, e.g.,</i> <a href="https://store.google.com/us/category/connected_home?hl=en-US">https://store.google.com/us/category/connected_home?hl=en-US</a> ; <a href="https://support.google.com/googlehome/answer/7072284?hl=en">https://support.google.com/googlehome/answer/7072284?hl=en</a> ; <a href="https://www.ifixit.com/Teardown/Google+Home+Teardown/72684">https://www.ifixit.com/Teardown/Google+Home+Teardown/72684</a> .
at least one processor;	Each of the foregoing Chromecast-enabled audio players includes at least one processor. <i>See, e.g.,</i> <a href="https://store.google.com/us/category/connected_home?hl=en-US">https://store.google.com/us/category/connected_home?hl=en-US</a> ; <a href="https://support.google.com/googlehome/answer/7072284?hl=en">https://support.google.com/googlehome/answer/7072284?hl=en</a> ; <a href="https://www.ifixit.com/Teardown/Google+Home+Teardown/72684">https://www.ifixit.com/Teardown/Google+Home+Teardown/72684</a> .
a data storage; and a program logic stored in the data storage and executable by the at least one processor to:	Each of the foregoing Chromecast-enabled audio players includes a data storage comprising program logic that is executable by the at least one processor and enables the Chromecast-enabled audio players to perform the functions identified below. <i>See, e.g.,</i> <a href="https://store.google.com/us/category/connected_home?hl=en-US">https://store.google.com/us/category/connected_home?hl=en-US</a> ; <a href="https://support.google.com/googlehome/answer/7072284?hl=en">https://support.google.com/googlehome/answer/7072284?hl=en</a> ; <a href="https://www.ifixit.com/Teardown/Google+Home+Teardown/72684">https://www.ifixit.com/Teardown/Google+Home+Teardown/72684</a> .
while playing back a particular media item from a local queue of media items, send, to a remote server over the network interface, (i) a request for an indication of media items from a cloud queue	Each of the foregoing Chromecast-enabled audio players includes program logic stored in the data storage and executable by the at least one processor to cause the Chromecast-enabled audio player to, while playing back a particular media item from a local queue of media items, send, to Google's Cloud Platform, (i) a request for an indication of media items from a cloud queue of media items that is accessible to the Chromecast-enabled audio player via a wide area network, and (ii) an indication of the particular media item that is being played by the Chromecast-enabled audio player, where the local queue is stored in data storage of the Chromecast-enabled audio player.

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of media items that is accessible to the playback device via a wide area network, and (ii) an indication of the particular media item that is being played by the playback device, wherein the local queue is stored in data storage of the playback device;	For instance, each of the foregoing Chromecast-enabled audio players is programmed such that, while playing an audio track from a local queue of the player that is associated with a cloud queue, the Chromecast-enabled audio player is capable of sending to Google's Cloud Platform (i) a request for an indication of audio tracks identified in the cloud queue (e.g., audio tracks that have not been loaded into the local queue) and (ii) an indication of the audio track currently being played back by the Chromecast-enabled audio player. <i>See, e.g.,</i> <a href="https://developers.google.com/cast/docs/caf_receiver/">https://developers.google.com/cast/docs/caf_receiver/</a> ; <a href="https://developers.google.com/cast/docs/caf_receiver/queuing">https://developers.google.com/cast/docs/caf_receiver/queuing</a> ; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueBase">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueBase</a> ; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueManager">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueManager</a> ; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueItem">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueItem</a> ; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueData">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueData</a> ; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueLoadRequestData">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueLoadRequestData</a> .
receive, over the network interface, an indication of two or more media items from the cloud queue of media items, wherein the two or more media items include the particular media item that is being played by the playback device; and	Each of the foregoing Chromecast-enabled audio players includes program logic stored in the data storage and executable by the at least one processor to cause the Chromecast-enabled audio player to receive an indication of two or more media items from a cloud queue, where the two or more media items include the particular media item that is being played by the Chromecast-enabled audio player.  For instance, each of the foregoing Chromecast-enabled audio players is programmed such that, while playing an audio track from a local queue of the player that is associated with a cloud queue, the Chromecast-enabled audio player is capable of receiving an indication of a window of audio tracks from the cloud queue that includes the audio track currently being played back by the Chromecast-enabled audio player. <i>See, e.g.,</i> <a href="https://developers.google.com/cast/docs/caf_receiver/">https://developers.google.com/cast/docs/caf_receiver/</a> ; <a href="https://developers.google.com/cast/docs/caf_receiver/queuing">https://developers.google.com/cast/docs/caf_receiver/queuing</a> ; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueBase">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueBase</a> ; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueManager">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueManager</a> ; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueItem">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueItem</a> ; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueData">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueData</a> ; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueLoadRequestData">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueLoadRequestData</a> .
incorporate an indication of at least one of the two or more media items into the local queue of media items.	Each of the foregoing Chromecast-enabled audio players includes program logic stored in the data storage and executable by the at least one processor to cause the Chromecast-enabled audio player to incorporate an indication of at least one of the two or more media items into the local queue of media items.

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	<p>For instance, each of the foregoing Chromecast-enabled audio players is programmed such that, in response to receiving an indication of a window of audio tracks from a cloud queue with which a local queue of the player is associated, the Chromecast-enabled audio player updates the local queue to incorporate at least one of the indicated audio tracks. <i>See, e.g.,</i></p> <p><a href="https://developers.google.com/cast/docs/caf_receiver/">https://developers.google.com/cast/docs/caf_receiver/</a>; <a href="https://developers.google.com/cast/docs/caf_receiver/queuing">https://developers.google.com/cast/docs/caf_receiver/queuing</a>; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueBase">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueBase</a>; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueManager">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueManager</a>; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueItem">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueItem</a>; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueData">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueData</a>; <a href="https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueLoadRequestData">https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueLoadRequestData</a>.</p>
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